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CENTRAL INTELLIGENCE AGENCY
Office of the Chief, Economic Research
Office of Research and Reports

Project Action Memorandum

Project No. 25.1670
Date Initiated: 21 Nov 56

TITLE: USSR Gas Industry Reorganized and 1960 Production Goal Raised

REQUESTER: Self

STATEMENT OF THE PROBLEM AND TERMS OF REFERENCE:

Problem: The USSR gas industry has recently been reorganized under a new administration and the 1960 production goal revised upward. In view of the recently reported fuel shortages in European USSR, a summary analysis of the reorganization and of the possibility of attaining the upward plan goal would be desirable.

Terms of Reference: The paper will contain sections on the causes and form of reorganization; postwar production plans and fulfillment, revised 1960 goal and prospects for realization of new goal. This project probably will be published as a CSM.

RESPONSIBILITY:

		<u>Man-hours</u>	<u>Due Date</u>	<u>Concurrence (Initials)</u>
<u>Action Division:</u>	D/M			
<u>Branch:</u>	M/P	100	31 Dec 56	<i>[Signature]</i>
<u>Consulting Branch:</u>	M/S			
<u>Staffs:</u>				
25X1A	CSS			<i>[Signature]</i>
	St/PR			<i>[Signature]</i>
<u>Principal Analyst:</u>	[REDACTED]	x 2766		
<u>Project Monitor:</u>	[REDACTED]	x 2803	25X1A	

This project will not delay completion of currently scheduled projects. The classification of this project will be no higher than SECRET.

APPROVED *[Signature]* Ch/E

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(IP.526)

1 February 1957

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M/P, 2766

Coord:

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Revision of Memo 57
Revised 1/2/57USSR GAS INDUSTRY REORGANIZED AND 1960 PRODUCTION
GOAL RAISED

In an article in Pravda of 7 September 1956, N. Yevseyenko, Minister of the Petroleum Industry, USSR, disclosed a) that the 1960 planned output goal for natural and manufactured gas in the USSR had been raised from 40 billion cubic meters to 46 billion cubic meters, and b) that the gas industry had been reorganized under a new Main Administration of the Gas Industry, attached to the Council of Ministers, USSR.

The announcement followed publication of rather elaborate expansion plans for the gas industry during the period of the Sixth Five Year Plan (1956-1960). Achievement of the planned goals will increase the total fuel supply, for support in the accomplishment of Sixth Five Year Plan goals in general, and, by raising the gas share in the Soviet fuel balance, will result in a greater diversification of that balance. Implicit, also, in the achievement are certain important indirect advantages to be gained. An increased ^{gas} fuel supply could: (a) relieve, or possibly eliminate, existing or potential local fuel shortages, particularly in the European regions; ^{of the USSR} (b) relieve the burden on the railroad system for the transportation of fuels to the extent that conversion to gas from other fuels could be effected; (c) make natural gas available for use as raw material in the petrochemical industry.

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Data on the Soviet gas industry for the postwar period until 1955 reflect a slow planned rate of development and a record of consistent failures to fulfill planned goals. Soviet gas output in 1950 was only 6.2 billion cubic meters, about 60 percent of planned production 1/. By 1955, total Soviet gas output had risen to only 10.4 billion cubic meters, representing 93 percent fulfillment of plan 2/. In that year, output of manufactured gas*, comprising the smaller share, exceeded the planned level by about 26 percent, but natural gas** output failed to achieve the planned level by about 17 percent.

^{note of} The slow expansion and ^{the} production deficiencies were the subject of sharp press criticism beginning in 1955 3/. The criticism included references to the failure of the responsible planners to recognize the relative cost advantages in the production of natural gas vis a vis other fuels. It was reported that, in 1954, the cost of producing a unit of standard fuel*** in the form of natural gas was about 1/6 the cost of producing an equivalent amount of energy in the form of coal and 2/5 the cost of crude oil. Similarly, the labor productivity in the natural gas industry was reported to be $7\frac{1}{2}$ times that in the coal industry and $3\frac{1}{2}$ times that in the petroleum industry.

* Manufactured from coal, shale and peat.

** This includes both dry and wet gases.

*** Measured as 7,000 kilocalories per kilogram.

The draft directives of the Soviet Sixth Five Year Plan 4/ called for a rapid expansion of the gas industry. Annual production of all gas (natural and manufactured) was to rise 280 percent over 1955, to 40 billion cubic meters by 1960, calling for an annual output rise of about 31 percent. In that rise, increased emphasis was to be given to natural gas. Compared to 1955, 1960 production of natural gas was to increase by 380 percent, to about 33.0 billion cubic meters and to comprise 82.5 percent of planned total gas output. The revised output goal of 46 billion cubic meters of all gas (reported in Pravda) represents a planned increase of 340 percent over 1955 production or an average annual increase of 35 percent. Information on the relative composition of the new goal is not available. However, based on the composition of the original goal, emphasis probably will continue to be directed to natural gas, which may, in fact, provide 39 billion cubic meters or 85 percent of the total gas output.

In 1956, Soviet gas production was reported 5/ as 13.7 billion cubic meters, exceeding the planned goal--the percentage of overfulfillment was not stated--and showing a rise of 31.7 percent over 1955. Of total 1956 Soviet "gas" production, natural gas production is estimated to have been 10 billion cubic meters, or 44 percent over 1955.

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For 1957, 6/ Soviet planned total gas production is 21.5 billion cubic meters or 57 percent over 1955. Of that total, natural gas is estimated to comprise 17 billion cubic meters, or 70 percent over 1956 gas production.

Distribution

In addition to the production goal, the plans for the expansion of the gas industry provide for the construction of 9,000 kilometers* of new trunk gas pipelines by 1960. Two lines are to be constructed from Stavropol' (in the Caucasus) to Moscow; one from Dashava (in Western Ukraine) to Leningrad; one from Shebelinka (near Khar'kov) to Bryansk (southwest of Moscow). There is evidence that the Soviets are directing considerable effort to this distribution phase of the expansion program. The Stavropol'-Rostov section -- about 300 kilometers -- of one of the Stavropol'-Moscow lines and the Shebelinka-Khar'kov section -- about 75 kilometers -- of the Shebelinka, Bryansk line were in operation during the first half of 1956. 9/ By December 1956, 10/ the one line to Moscow from Stavropol' was installed, though more work is to be done during 1957 to realize the planned capacity. The schedule for completion of this latter line had been advanced by one year.

* Recently, 7/ the Minister for Construction of Petroleum Industry, Enterprises, USSR, spoke of plans for the installation, presumably during the period of the 6th ^{Five} ~~Fiscal~~ Year Period, of more than 10,000 kilometers of trunk gas pipelines. This may indicate that the plan goals for construction of trunk gas pipelines were raised. Analysis of other data indicates, however, that possibly as much as 12,000 kilometers of trunk gas pipelines may be constructed during the period of the Sixth ^{Five} Year Plan. Completion of construction plans would raise the pipeline capacity considerably, compared to 1955 when there were about 5,200 kilometers 8/ of installed trunk gas pipelines.

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The schedule for completion of the Dasha-Leningrad line 11/ has also been advanced, from 1958 to 1957. It is inferred from the foregoing that capital and material are or will be available to support the pipeline construction activity.

Consumption

Prior to 1955, gas was used in several sections of the Soviet economy primarily as a fuel and incidentally, as a raw material. In 1955, about 70 percent of the gas output was consumed as a fuel by industrial and communal service enterprises. About 20 percent - 2.3 billion cubic meters of natural gas 12/ was consumed as a fuel by households. The remainder was consumed as fuel by motor transport and as raw material in the production of petro-chemicals and natural gasoline. However, a change in the shares described above may be anticipated by 1960.

Plans for the period 1956-1960 provide for the conversion of about 300 industrial enterprises to the use of gas as a fuel. 13/ During the first half of 1956, coal and some petroleum products were reported to be in short supply, particularly in European USSR. 14/ These fuel shortages may have contributed to mid-1956 plans underfulfillment for ferrous metals, rolled steel, and other commodities. The availability of gas as a result

of increased production and expanded distribution facilities will permit conversion and/or diversification of fuel consuming equipment and will tend to offset ^{gas} shortages of other fuels. Fulfillment of plans to extend the supply of gas to 100 cities and to increase supply for some 30 other cities and to increase the number of gas-supplied apartments by about 150 percent 15/, is expected to result in an increase in the household consumption of gas.

There had been complaints 16/ against the petroleum industry for failure to coordinate petro-chemical production with the chemical industry, implying that development of the petro-chemical production was lagging. The use of natural gas as a raw material in the production of petro-chemicals, is to be developed during the period of the Soviet Five Year Plan. The scale of planned petro-chemical production has not been specified in available information. ^{Sixth}

The increased use of gas as a raw material could augment the output of such products of the petrochemical industry as agricultural fertilizer, acetone, alcohol and soaps; the substitution of gas as a raw material could release grain, potatoes, and animal fat - regularly used as raw material - for household consumption.

Reorganization

Until September 1956, the administration of the gas industry was divided between the Main Administrations for Natural Gas and the Main Administration for Synthetic Liquid Fuel and Gas, both of the Ministry of the Petroleum Industry, USSR. The September reorganization combined the

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two gas administrations of the petroleum ministry into a new Main Administration for the Gas Industry, attached to the Council of Ministers, USSR. The new main administration was assigned responsibility 17/ for planning, organization, construction, and direction in all of the following operations: prospecting, drilling, extraction, and processing of natural gas; production of gas from coal, shale, and peat; and the pipeline transport of gas. The new administration was also assigned responsibility for the direction of scientific research work and for organization of the production of petro-chemicals.

Evidently the reorganization of the gas industry will enhance the chances of achieving the planned rapid expansion during the Sixth Five Year Plan. Previously, as a component of the petroleum industry, with vital materials such as pipe in short-supply, and with reconstruction and expansion of the liquid petroleum production accorded high priority, the gas industry was relegated to a role of secondary importance.

The reorganization has had two important results. As a main administration attached to the Council of Ministers, the gas industry is now in a position to present its problems directly to policy makers and to receive exclusive allocations. Furthermore, as an independent unit, the gas industry will be able to give more specialized attention to its own problems.

Prospects for Plan Fulfillment

In consideration of the elements outline^d below it is believed that the plans for the Soviet gas industry - including increased production,

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expanded distribution facilities, and diversified market - can be achieved.



Soviet natural gas resources are considered to be ample to meet the 1960 production goal. A Soviet source 18/ claimed that natural gas resources are great enough to permit a fundamental change in the USSR fuel balance in favor of gas within the next 10-15 years. Recent explorations have resulted in the discovery of new large deposits and the extension of proved deposits in older producing regions. Plans also provide for the recovery of large quantities of gas now being flared or discharged in fields or at refineries.

The supply of pipe in recent years has been improving and should be adequate for meeting the requirements of the program for construction of pipeline and distribution systems. This is reflected in the scale of planning for liquid and gas pipelines, in reported pipeline completions, and in the construction schedule updating.

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The use of gas as an alternate or supplemented fuel to offset the recurrent local shortages of other fuels and the advantages which would accrue to other sectors of the economy by the conversion of fuel consuming equipment to gas, is expected to result in an expanded and diversified market for gas.

The establishment of a new Main Administration for the gas industry will probably overcome the administrative failures responsible for the previous slow expansion of the gas industry.

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